

Notice of Allowability

Application No.

09/809,038

Examiner

Wai-Sing Louie

Applicant(s)

NAKAMURA ET AL.

Art Unit

2814

AW

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 8/18/2004.
2. ☒ The allowed claim(s) is/are 64,66 and 71.
3. ☒ The drawings filed on 16 March 2001 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
 - * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date 10/11/2001
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____
7. ☐ Examiner's Amendment/Comment
8. ☐ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

DETAILED ACTION

The response after final rejection has overcome the final rejection and the finality of the previous office action is withdrawn. Claims 64, 66, and 71 are allowed.

Allowable Subject Matter

The following is an examiner's statement of reasons for allowance:

The claimed invention is a nitride semiconductor light-emitting device comprising:

- An n-type layer comprising an n-type GaN or an n-type nitride semiconductor containing indium and gallium;
- A first p-type clad layer comprising a p-type InGaN containing indium and gallium;
- An active layer, provided between the n-type and the first p-type clad layers, having a multi-quantum well structure having a well layer comprising a nitride semiconductor represented by $\text{In}_x\text{Ga}_{1-x}\text{N}$, $0 < x < 1$;
- A second p-type clad layer made of a p-type AlGaN containing Al and Ga provided over said first p-type clad layer; and
- A p-type contact layer formed of a p-type GaN provided over the second p-type clad layer.

The prior art of record does not disclose or suggest either in singly or in combination the following limitations and other elements in the claims:

Reference Edmond et al. (US 5,592,501) do not disclose a first p-type clad layer comprising a p-type InGa_N containing indium and gallium and a second p-type clad layer made of a p-type AlGa_N containing Al and Ga provided over said first p-type clad layer.

Reference Mannou et al. (US 5,270,246) do not disclose an active layer having a multi-quantum well structure having a well layer comprising a nitride semiconductor represented by In_xGa_{1-x}N, 0<x<1, and a first p-type clad layer comprising a p-type InGa_N containing indium and gallium.

Therefore, the above references do not disclose the claimed invention of present application and claims 64, 66, and 71 are allowed.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Wai-Sing Louie whose telephone number is (571) 272-1709. The examiner can normally be reached on 7:30 AM to 4:00 PM.

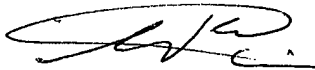
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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wael Fahmy can be reached on (571) 272-1705. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Wsl

September 17, 2004.



LONG PHAM
PRIMARY EXAMINER

